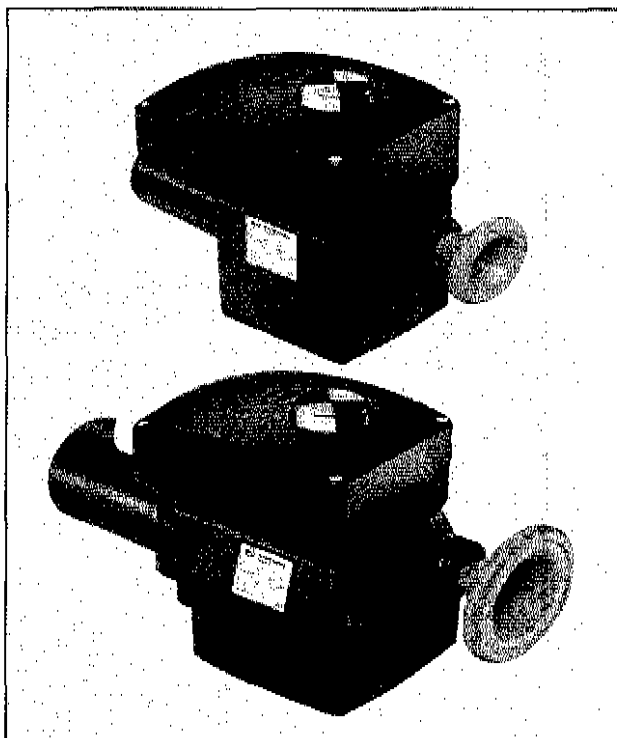


## ELECTRIC ACTUATORS TYPE E 50 - E 210



E 65 and E 110.

### TECHNICAL DATA

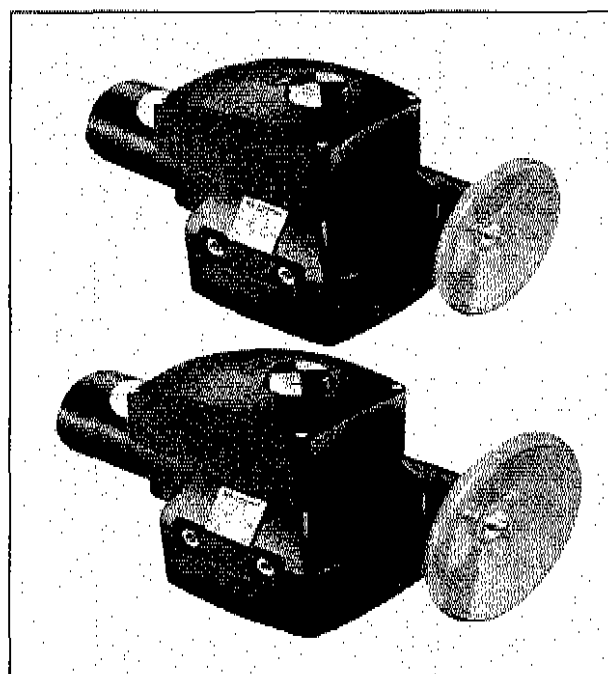
Types:	E 50 - E 210
Duty class:	Class C acc. to prEN W169000095
Valve interface:	EN ISO 5211
Actuation time:	30 s - 180 s
Corrosion protection:	C4 acc. to prEN W16900095 tested acc. to EN 60068-2-52
Protection class:	IP 67 acc. to EN IEC 60529
Insulation class:	F
Limit switches:	max. 250 V AC, 3A for DS-Actuators max. 250 V AC, 3A for WS-Actuators max. 24 V DC, 10A for GS-Actuators
Operation temperature:	-20°C to +70°C
Cable glands:	2 x M20 x 1,5; Ø min = 6 mm, Ø max = 13 mm
Hand wheel:	15 revolutions for 90°
Hand wheel torque:	8 Nm for E 50 4 Nm for E 65 20 Nm for E 110 35 Nm for E 160 50 Nm for E 210

### FEATURES

- Compact electric actuators with a robust, completely ball beared wormgear
- Safe arresting by self-inhibition
- Changeable clutch nuts for mounting on different shaft ends
- Mechanical position indicator disc for an optical control of the valve's position
- Motor with thermic winding protection switch
- Hand wheel enables immediate hand emergency operation if necessary
- Maintenance-free, long life service by continuous lubrication

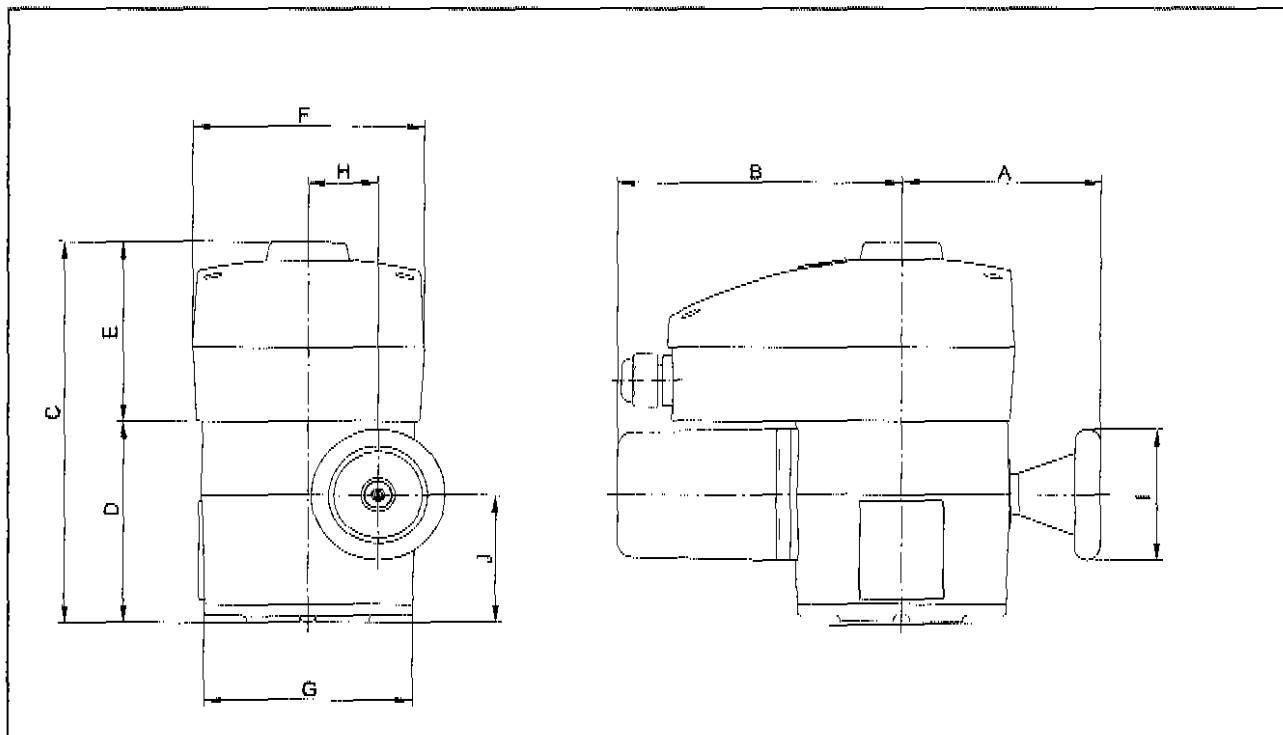
### GENERAL APPLICATIONS:

- Water and waste water technology
- Chemical industry
- Car industry
- Civil engineering
- Everywhere applicable, where butterfly valves are installed



E 160 and E 210.

## DIMENSIONS E 50 - E 210



Type	Dimensions [mm]										Weight [kg]
	A	B	C	D	E	F	G	H	I	J	
E 50	110	149	210	123	87	124	126	42	80	73	5
E 65	119	172	235	123	112	139	125	42	80	78	7
E 110	136	247	257	145	112	139	150	58	125	88	14
E 160	157	280	282	170	112	139	175	89	200	112	25
E 210	212	352	274	162	112	139	240	125	315	84	40

Subject to change without notice

### FEATURES

Valve interface: EN ISO 5211

Type	E 50 WS	E 65 WS	E 65 DS	E 65 GS	E 110 WS	E 110 DS	E 110 GS	E 160 WS	E 160 DS	E 160 GS	E 210 DS
Actuation time from 0° - to 90°	25 s	6 s	6 s	6 s	12 s	12 s	6 s	24 s	24 s	12 s	24 s
Rated torque	40 Nm	100 Nm	100 Nm	100 Nm	400 Nm	400 Nm	360 Nm	1000 Nm	1000 Nm	800 Nm	3500 Nm
Rated current	0,15 A	0,7 A	0,3 A	5 A	1,3 A	1,0 A	8,8 A	1,3 A	1,0 A	8,8 A	1 A
Starting current	0,18 A	1,0 A	0,3 A	8,0 A	2 A	1,8 A	12,5 A	2 A	1,8 A	12,5 A	3,2 A
Power consumption	0,04 kW	0,16 kW	0,09 kW	0,08 kW	0,26 kW	0,22 kW	0,4 kW	0,26 kW	0,22 kW	0,4 kW	0,54 kW
Rated voltage	230 V	230 V	400 V	24 V	230 V	400 V	24 V	230 V	400 V	24 V	400 V
Frequency	50 Hz	50 Hz	50 Hz	-	50 Hz	50 Hz	-	50 Hz	50 Hz	-	50 Hz
Duty cycle	30 %	30 %	30 %	30 %	30 %	30 %	30 %	30 %	30 %	30 %	30 %
Protection class	IP 67	IP 67	IP 67	IP 67	IP 67	IP 76	IP 67	IP 67	IP 67	IP 67	IP 67

MADE BY  EBRO

4

**CERTIFICATE****Declaration of conformity****CE**

We,

**EBRO ARMATUREN****Geb. Bröer GmbH, Karlstraße 8, 58135 Hagen, Germany**

declare in our sole responsibility that the electric quarter-turn actuators of the E series:

<b>E 50 WS</b>	<b>E 65 WS</b>	<b>E 110 WS</b>	<b>E 160 WS</b>	
	<b>E 65 DS</b>	<b>E 110 DS</b>	<b>E 160 DS</b>	<b>E 210 DS</b>
	<b>E 65 GS</b>	<b>E 110 GS</b>	<b>E 160 GS</b>	

and the enhanced unit box system

**M71-WS-XXX-40** and **M71-DS-XXX-40** and **M71-GS-XXX-40**

this declaration is valid for fulfil the requirements of the guideline rights of the European member states about EMC directive (89/336/EEG) and the low voltage directive 73/23/EEG (NSR).

For assessment of these products related to electromagnetic compatibility and low voltage directive following standards have been consulted:

**EN 50178 : 1997**  
**EN 61010 -1 : 1993** for low voltage directive

**EN 60611 : 1998**  
**EN 61000** for EMC directive

As manufacturer of these products, we declare additionally, that following standards according to machinery directive 89/392/EEG have been consulted:

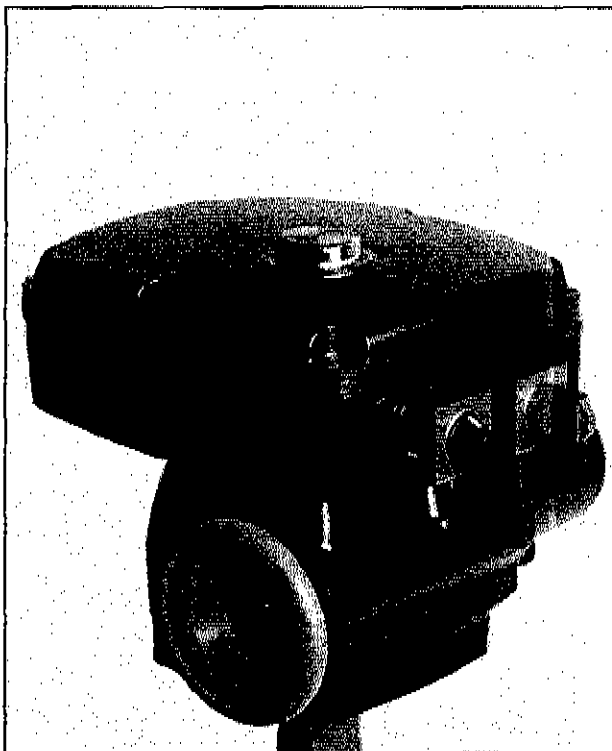
**EN ISO 5211**  
**EN 80068-2-52**  
**EN IEC 60529** acc. to machinery directive 89/392/EEG

The starting is not permitted till it is ensured, that the complete machine, where EBRO quarter-turn actuators are installed, fulfil the guideline of directive 89/392/EEG

Hagen, dated 22.07.2008

*[Signature]*  
 Gerd-Ing. H. Knappe, Technical Director

# MODULE SYSTEM FOR ELECTRIC ACTUATORS



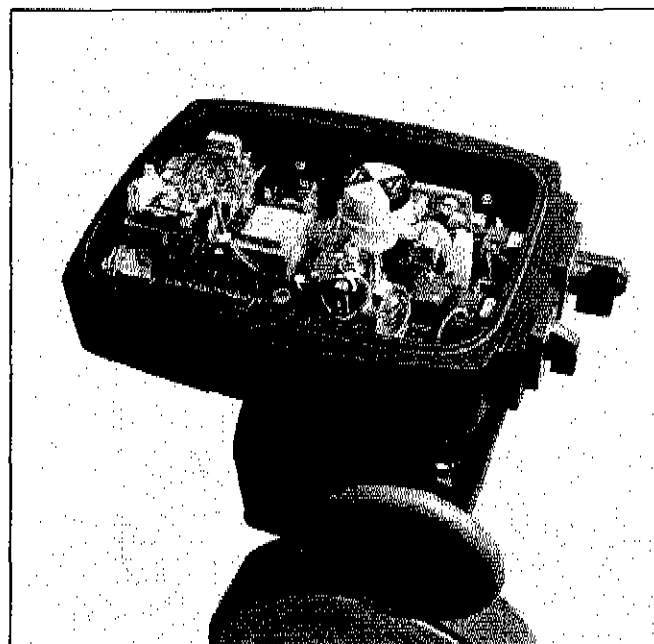
Electric quarter turn actuators series E65 to E210 with module system are designed to automate control valves.

## TECHNICAL DATA

Nominal torque:	100 Nm bis 4000 Nm
Protection class:	IP67
Duty Cycle:	up to Class C (max. 1200 c/h) acc. to prEN 15714-2
Limit switches:	max. 250V AC, 3A
Torque control:	potentielfreier Wechsler, max. 250V AC 5A
Switch box heater:	Versorgung 230V AC permanent, 5W
Potentiometer:	1000 $\Omega$
Current feedback:	4-20mA, Versorgung max. 30V DC
Thermal motor switch:	integrated
Insulation class:	F
Corrosion Protection Class:	C4 acc. to prEN 15714-2, tested acc. to EN 60068-2-52
Cable entries:	4 x M20 x 1,5 $\varnothing$ -min = 6 mm $\varnothing$ -max = 13 mm
Operation temperature:	-20°C to +70°C
Hand wheel:	15 revolutions 90°
Hand wheel torque:	4 Nm for E65 20 Nm for E110 35 Nm for E160 50 Nm for E210
Supply Voltage:	von 110V AC/1~ bis 480V AC/3~

## GENERAL APPLICATIONS

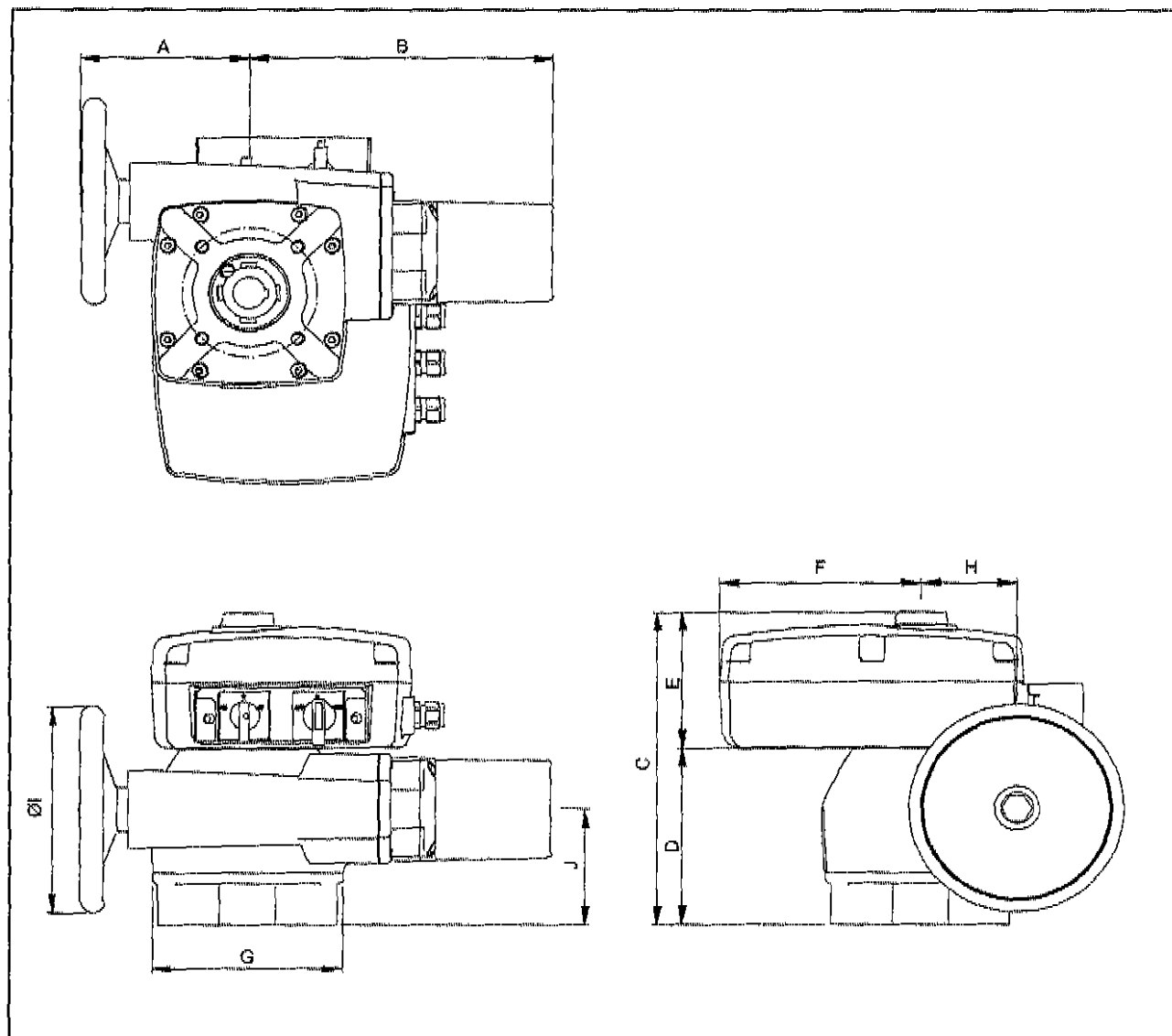
- Integrated torque control
- Digital control input
- Integrated 24V DC control voltage supply
- 5 digital feedback signal
- Switch box heater
- Prepared for further options
- Actuator mounting and optional modules as modular system
- Self-locking, separately capsuled worm gear ensures a safe positioning of the actuating element
- Top flange acc. to EN ISO 5211
- Replaceable shaft notch enables the adaption of different valves
- The optical position indicator shows the exact position of the actuating element



Complete equipment with additional board for positioner

6

## DIMENSIONS MODULE SYSTEM



	Dimensions [mm]									
Type	A	B	C	D	E	G	H	ØI	J	Top flange
E 65	119	171	255	123	132	125	42	80	78	F04, F05, F07
E 110	136	247	277	145	132	150	58	125	88	F07, F10
E 160	157	280	302	170	132	175	89	200	112	F10, F12, F16
E 210	212	352	294	162	132	240	125	315	84	F12, F14, F16

Subject to change without notice.

**MADE BY**  **EBRO**

7/7

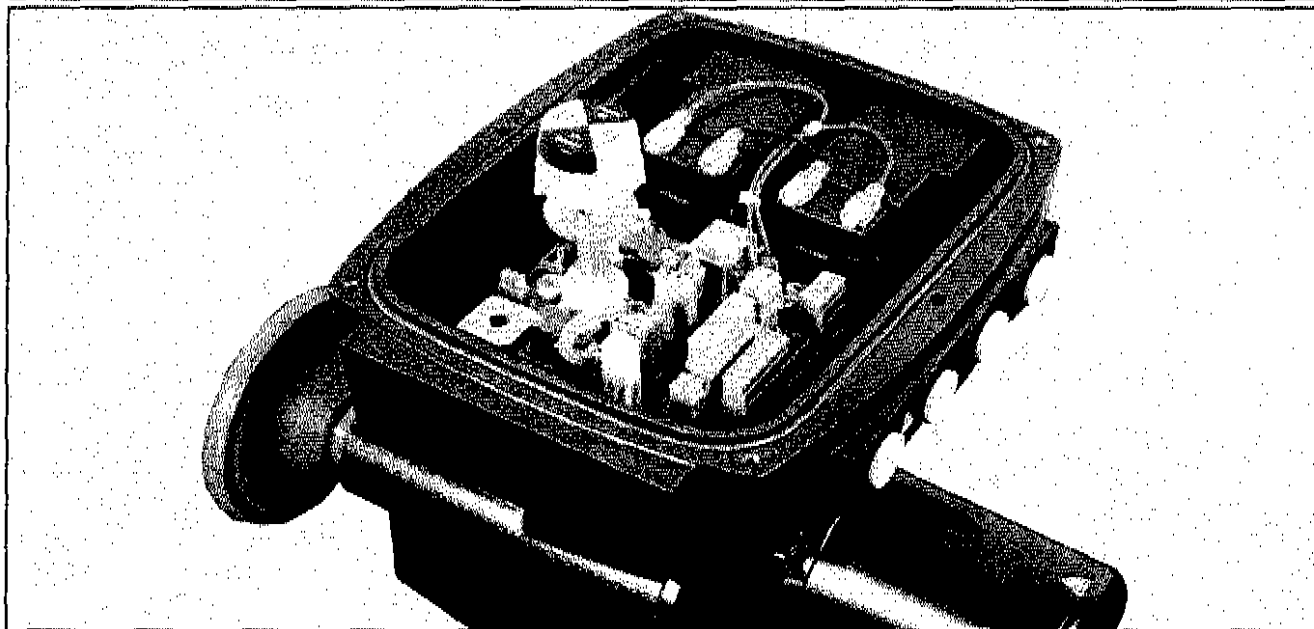
## ORDER CODES

Order Code		Standard			Options			
		Main Board PI.E71-Local	Digital remote control inputs	Digital feedback	Additional Limit Switches	Current Feedback 4-20mA	Local control	Positioner PI.E71- POS
Alternating Current	Three-Phase Current							
M71-WS-001-40	M71-DS-001-40	X	X	X				
M71-WS-002-40	M71-DS-002-40	X	X	X	X			
M71-WS-003-40	M71-DS-003-40	X	X	X		X		
M71-WS-004-40	M71-DS-004-40	X	X	X			X	
M71-WS-005-40	M71-DS-005-40	X	X	X	X	X		
M71-WS-006-40	M71-DS-006-40	X	X	X	X	X	X	
M71-WS-007-40	M71-DS-007-40	X	X	X	X		X	
M71-WS-008-40	M71-DS-008-40	X	X	X	X	X	X	
M71-WS-009-40	M71-DS-009-40	X		X				X*
M71-WS-010-40	M71-DS-010-40	X		X	X			X*
X M71-WS-011-40	X M71-DS-011-40	X		X		X		X*
M71-WS-012-40	M71-DS-012-40	X		X			X	X*
M71-WS-013-40	M71-DS-013-40	X		X	X	X		X*
M71-WS-014-40	M71-DS-014-40	X		X		X	X	X*
M71-WS-015-40	M71-DS-015-40	X		X	X		X	X*
M71-WS-016-40	M71-DS-016-40	X		X	X	X	X	X*

\*If a positioner is installed, remote control information is disconnected.

### Actuators with fail-safe position OPEN/CLOSE

Direct Current			
M71-GS-100-40	PI.E71-GS	X	without additional power charge unit for battery pack
M71-GS-200-40	PI.E71-GS	X	with additional power charge unit for battery pack



This version provides a safety position in case of power loss.